

SmartSwitch 9000  
9F426-03  
Local Management Appendix

9032058-01

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# 9F426-03 Module Specific Information

## Introduction

This appendix contains local management information that is specific to the 9F426-03 FDDI Switch Module.

## Module Interfaces

The 9F426-03 FDDI Switch Module has 8 interfaces. Table 1 lists the identifying number, name, and description of each interface.

**Table 1. 9F426-03 FDDI Switch Module Interfaces**

<b>Interface Number</b>	<b>Interface Name</b>	<b>Interface Description</b>
1	SMB1	1 Mbps System Management Bus
2	SMB10	10 Mbps System Management Bus
3	HOST	i960 Host
4	CONTROL	i960 Data Controller
5	INB	Internal Network Bus
6	FRONT1	FDDI Front Panel Port 1
7	FRONT2	FDDI Front Panel Port 2
8	FRONT3	FDDI Front Panel Port 3

Use the numbers listed in Table 1 to configure the module's default interface (see General Configuration Screen in the *SmartSwitch 9000 Module Local Management User's Guide*).



## Ring Map Configuration Screen Fields

The following information briefly explains each Ring Map Configuration Screen field.

### **FDDI Address**

Displays the address of the module. The format of this address (either MAC or Canonical) is determined by the value you select in the Address Mode field.

### **MAC Count**

Displays the number of MACs (Media Access Controllers) that are attached to the specified ring.

### **Current Ring Map**

Identifies the ring on which a MAC for the specified module resides, and whether that MAC is located on the primary or secondary path of that ring.

### **Address Mode (Toggle)**

Allows you to select the format in which addresses appear on this screen. Press the **Space Bar** to toggle to the desired value. The Address Mode possibilities are:

- MAC
- Canonical

### **FRONT PANEL x (Toggle)**

Allows you to display information about the module's front panel ports.

## Choosing a Front Panel Port

To choose a front panel port:

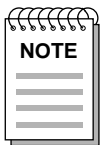
1. Use the arrow keys to highlight the FRONT PANEL x field (lower left corner of screen).
2. Press the **Space Bar** to toggle to the desired port.
3. Press the **Return** key.

## The Ring Map

The Ring Map shows a series of addresses in upstream/downstream order. These addresses, which represent each FDDI device attached to the ring, are arranged on the screen to simulate the circular fashion of a ring. When first displayed, the station at the upper left corner of this map is your current station. The screen displays node class, node address, and twisted and/or wrapped conditions (T for twisted, W for wrapped). The node class possibilities are:

- NAS (Null Attached Station) - Isolated station; station not connected to an FDDI ring.
- DAS (Dual Attached Station) - Station that does not support M ports, but connects directly to an FDDI primary and secondary ring using A and B ports.
- DAC (Dual Attached Concentrator) - Station that supports M ports and connects directly to an FDDI primary and secondary ring using A and B ports.
- SAS (Single Attached Station) - Station that accesses the main ring through a concentrator, creating a ring of trees topology.
- SAC (Single Attached Concentrator) - Station that accesses the main ring through another concentrator and, in turn, allows the connection of more devices. SACs provide the same connections as DACs, without attaching to the dual ring.
- NAC (Null Attached Concentrator) - Isolated concentrator; concentrator not connected to an FDDI ring.

While the map is updated, for example, during a ring topology change, the screen may show ??:?:?:?:?:?:?:? to illustrate an undetermined address.



*The Ring Map display stops at the first occurrence of an undetermined address, and does not display any known information beyond this point.*

## Displaying the Ring Map Node Screen

To display the Ring Map Node Screen (from the Ring Map Configuration Screen), use the arrow keys to highlight an address, then press the Return key. The Ring Map Node Screen appears.

## Ring Map Node Screen

The Ring Map Node Screen (Figure 2), displays specific information for a selected FDDI node on the Ring Map.

```
SmartSwitch 9000 Local Management

Ring Map Node

Module Name: 9F426-03          Firmware Revision: 01.04.10
Slot Number: 11                BOOTPROM Revision: 01.02.00

SELECTED NODE

Address:                        00:00:B8:00:10:62
Upstream Address:              NO UPSTREAM ADDRESS
Node Class:                    NAS
Mac Count:                     0
Non-Master Count:             0
Master Count:                  0
Peer Wrap:                     No
Unattached Conc:              No
Twisted A-A:                   No
Twisted B-B:                   No
Synchronous Service:          No
Rooted:                        No

EXIT                            RETURN
```

**Figure 2. Ring Map Node Screen**



## Ring Map Node Screen Fields

The following information briefly explains each Ring Map Node Screen field.

**Address**

Displays the address of the selected node.

**Upstream Address**

Displays the address of the selected node's nearest upstream neighbor.

**Node Class**

Displays the class (NAS, DAS, DAC, SAS, or SAC) of the selected node. For an explanation of these class codes, see page 5.

**MAC Count**

Displays the number of MACs (Media Access Controllers) that are attached to the specified ring.

**Non-Master Count**

Displays the number of A and B ports on the selected node.

**Master Count**

Displays the number of M ports controlled by the selected node.

**Peer Wrap**

Indicates whether a wrap condition exists on a port. A peer wrap does not occur when the A or B port is attached to an M port.

**Unattached Conc (DAC only)**

Indicates whether the selected node has no active A or B port.

**Twisted A-A**

Indicates whether the A port is connected to another A port.

**Twisted B-B**

Indicates whether the B port is connected to another B port.

**Synchronous Service**

Indicates whether the selected node uses synchronous bandwidth which guarantees a certain percentage of the total FDDI bandwidth for real-time applications.

**Rooted**

Indicates whether the selected node has an active A or B port when one, and only one, end of the fiber link connects to an M port.

## Switch Configuration Screen

The Switch Configuration Screen (Figure 3), displays parameters you can configure to make the switch operational.

```
SmartSwitch 9000 Local Management

Switch Configuration

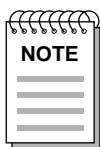
Module Name: 9F426-03          Firmware Revision: 01.04.10
Slot Number: 9                BOOTPROM Revision: 01.02.00

Switch Address: 00-00-1D-00-08-45  Type of STA: [NONE]
Numbers of Ports: 4

Port #      MAC Address      State      Status
  1         00-00-1D-00-08-45    disabled  [DISABLED]
  2         00-00-1D-00-08-46    forwarding [ENABLED]
  3         00-00-1D-00-08-47    forwarding [ENABLED]
  4         00-00-1D-00-08-48    forwarding [ENABLED]

SAVE                               EXIT          RETURN
```

Figure 3. Switch Configuration Screen



*Port # refers to the following:*

- *Port 1 - INB*
- *Port 2 - Front Panel Port 1*
- *Port 3 - Front Panel Port 2*

## Switch Configuration Screen Fields

The following information briefly explains each Switch Configuration Screen field.

### **Type of STA (Toggle)**

Allows you to set the method that bridges use to decide which bridge is the controlling (Root) bridge when two or more bridges exist in parallel (Spanning Tree Algorithm). Press the **Space Bar** to toggle to the desired value. Valid types are:

- DEC
- IEEE
- NONE (**default**)

### **MAC Address**

Lists the hardware address of each listed interface.

### **State**

Displays the current state of each listed interface. The possible interface states include:

- Disabling: Management has disabled this interface. No traffic can be received or forwarded while the interface is disabled.
- Learning: The bridge is learning this interface's network addresses. The bridge enters the learning state when the Transparent Database is created (during start-up or after being deleted), or when the Spanning Tree Algorithm detects a network topology change.
- Listening: The bridge is not adding information to the Transparent Database. The bridge is monitoring BPDU traffic while preparing to move from the learning to the forwarding state.
- Forwarding: The bridge is on-line and this interface is forwarding traffic.
- Blocking: This interface will not forward any traffic through the bridge.

### **Status (Toggle)**

Allows you to set the forwarding status of the listed interface. Press the **Space Bar** to toggle to the desired value. Valid values are:

- ENABLED (**default**)
- DISABLED

## Full Duplex Configuration Screen

The Full Duplex Configuration Screen (Figure 4), allows you to specify transmit and receive settings for the module's front panel ports.

```
SmartSwitch 9000 Local Management

Full Duplex Configuration

Module Name: 9F426-03          Firmware Revision: 01.04.10
Slot Number: 9                BOOTPROM Revision: 01.02.00

PORT#      OPERATION MODE      LINK STATUS      PORT STATUS
  1         FULL DUPLEX        No Link          ENABLED
  2         FULL DUPLEX        No Link          ENABLED
  3         FULL DUPLEX        No Link          ENABLED

SAVE                SET ALL PORTS:  FULL  EXIT  RETURN
```

Figure 4. Full Duplex Configuration Screen

## Full Duplex Configuration Screen Fields

The following information briefly explains each Full Duplex Configuration Screen field.

### **OPERATION MODE** (Toggle)

Lets you determine whether the specified port will transmit and receive data separately or simultaneously. You can set this field to one of the following values:

- **FULL DUPLEX** - The port can transmit and receive data at the same time. Therefore, the port is running at 200 Mbps.
- **STANDARD FDDI (default)** - The port can either transmit data or receive data, but not both at the same time. Therefore, the port is running at 100 Mbps.

### **LINK STATUS**

Indicates whether there is a physical connection from this port to another device. One of the following values appears:

- **Link** - There is a link signal present; there is a valid physical connection from this port to another device.
- **No Link** - There is no link signal present; there is no valid physical connection from this port to another device.

### **PORT STATUS**

Indicates whether the port has been turned on or off administratively. You will see one of the following values:

- **ENABLED** - The port is turned on administratively.
- **DISABLED** - The port is turned off administratively.

### **SET ALL PORTS** (Toggle)

Allows you to set all the FDDI ports to either **FULL DUPLEX** or **STANDARD FDDI** at one time.

- **FULL (default)**
- **STANDARD**

